Amendments to the Specification:

1) Kindly, amend the paragraph running from line 7 to line 20 on page 8 of the specification to read as follows:

The present invention also provides a micro-analytical separation device comprised of etched or molded channels whereby various channels are used for separation and analysis purposes and others are distinctly used for the purpose of injection or material movement illustrated in Figs. 2(a-c). As shown in Figure 2a the system includes an injection channel 2 and separation channel 4. Sample material is injected to fill the injection channel 2 in between the separation channels 4 as depicted in Figure 2b. To prevent unintentional introduction of material movement, commonly referred to as trailing or leaking, into the main separation channel after injection ceases, a small voltage is applied to the two injection channel electrodes ~~5~~ 15. As illustrated in Figure 2c, after the initial injection the electrodes are used to create an appropriate voltage gradient to prevent unwanted introduction of materials into the separation channel thereby concentrating desired components in separation channel 4. By manipulating flow and the voltage fields independently, positive, negative and neutral molecules may be manipulated as a group or individually.

2) Kindly amend the paragraph running from line 16 to line 27 on page 9 of the specification to read as follows:

In the preferred embodiment of the invention as shown in Figure 2a-c, the injection channel 2 is perpendicular to the separation channel 4, although the geometry of this

intersection is not of direct importance to the concepts presented here. Electrodes ~~5, 6~~ 15, 16 are located at the immediate entrances of channels ~~5, 6~~ 2, 4 and are electrically connected to the junction where the two channels 2, 4 intersect. Placement of an electrode at the immediate entrance of a capillary or channel and at the junction with another channel or buffer reservoir, creates a chemical voltage gate, in that movement of materials may be independently controlled by simply varying the voltage field gradient and the flow rate within the particular channel. At this chemical voltage gate, materials of interest may be totally excluded from entering the adjoining channel or selectively permitted to enter the channel by using electrophoretic focusing techniques.

3) Kindly amend the paragraph running from line 28 on page 9 to line 6 on page 10 of the specification to read as follows:

In another embodiment of the invention shown in Figure 3 a reservoir containing a buffer solution ~~5~~ 25 is placed in fluid contact with a channel 12 and an electrode ~~9~~ 19 is placed at the immediate entrance to that channel 11. The buffer reservoir is maintained at the same voltage as the entrance electrode, thus the material will not undergo electrophoretic migration within the reservoir. However, the charged materials will move toward the channel entrance at the same rate as the bulk flow. At the immediate entrance of the channel the effects of the applied voltage field influences the charged materials, thus inducing electrophoretic migration. Since the bulk flow within the channel is approximately equal to and opposite the electrophoretic migration, the charged material of interest stops.